

REMARKS

Reconsideration of the above-identified application in view of the foregoing amendment and following remarks is respectfully requested.

A. **Status of the Claims / Explanation of Amendments**

The office action rejected claims 1-4 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,211,915 to Harada ("Harada") in view of U.S. Patent Application Pub. No. US 2002/0039144 to Yamada ("Yamada"). [09/24/2007 Office Action at 2].

Claims 1-4 are pending. By this paper, claim 1 is amended to recite wherein the reset of the charge detection portion by the driving circuit is continued during the draining of the unnecessary charges "to provide stable clamping operation." Support for this amendment may be found throughout the application as originally filed, including at page 4, lines 12-16 and page 10, lines 12-15. No new matter will be added to this application by entry of this amendment. Accordingly, Applicant respectfully requests entry of this amendment.

B. **Claims 1-4 Are Patentably Distinct From Harada Alone Or In Combination With Yamada**

The rejection of claim 1 is respectfully traversed. As explained more fully below, the requirements for such a rejection are not met. Specifically, Applicant's amended claim 1 recites:

"1. An image sensing apparatus comprising:

an image sensing element having a photoelectric conversion portion at which a plurality of photoelectric conversion elements are two dimensionally arrayed,

vertical transfer portions which vertically transfer signal charges stored in the photoelectric conversion portion in accordance with a vertical transfer pulse,

a horizontal transfer portion which horizontally transfers signal charges transferred from the vertical transfer portions in accordance with a horizontal transfer pulse, and

a charge detection portion which converts signal charges transferred from the horizontal transfer portion into a signal voltage or a signal current;

a switch which inputs a reference voltage from a reference power supply; and

a driving circuit which, while signal charges are stored in the photoelectric conversion portion, stops the horizontal transfer portion, drains unnecessary charges generated at the vertical transfer portions of said image sensing element, inputs to one terminal of a capacitor a reset voltage that resets the charge detection portion, and inputs the reference voltage from the reference power supply to the other terminal of the capacitor by controlling said switch,

wherein the charge detection portion and said switch are arranged at the two terminals of the capacitor, and

wherein the reset of the charge detection portion by the driving circuit is continued during the draining of the unnecessary charges to provide stable clamping operation.”

One of the aspects of the present invention is directed to adjusting a reference voltage without transferring signal charges of photoelectric conversion elements while charge accumulation is executed in the photo electric conversion elements.

Harada is directed to a control method for reading signal obtained in light receiving portions. As Applicant understands it, however, Harada, disclosing that a signal is swept out when the amount of the signal is too large and the signal flows into a floating diffusion capacitor [Harada, col. 4, lns. 16-28, col. 4, ln. 50 – col. 5, ln. 30], does not teach, disclose, or suggest the inventive aspect of amended claim 1 as discussed above, e.g., how to adjust a reference voltage without transferring signal charges of photoelectric conversion elements while charge accumulation is executed in the photo electric conversion elements.

The Office Action admits that Harada does not teach “draining unnecessary charges from the vertical transfer portion.” [9/24/07 Office Action at p. 3]. For this element, the Office Action cites Yamada. The Office Action contends that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the charge draining of Yamada in the apparatus taught by Harada as this would allow for smear charges to be discharged resulting in less noise.” [9/24/07 Office Action at p. 3-4].

Yamada teaches that most noise charges are discharged to a discharge drain (45). [Yamada, para 0277]. However, Yamada also does not teach, disclose or suggest how to adjust a reference voltage without transferring signal charges of photo electric conversion elements while charge accumulation is executed in the photo electric conversion elements, as recited in Applicant’s amended claim 1.

Accordingly, independent claim 1 is respectfully asserted to be patentably distinct from the cited references (i.e., Harada and Yamada), either taken alone or in combination. For at least similar reasons, dependent claims 2-4 are also believed to be in condition for allowance.

Applicant has chosen in the interest of expediting prosecution of this patent application to distinguish the cited documents from the pending claims as set forth above. These statements should not be regarded in any way as admissions that the cited documents are, in fact, prior art.

Additionally, applicant has not specifically addressed the rejections of the dependent claims. Applicant respectfully submits that the independent claim, from which they depend, is in condition for allowance as set forth above. Accordingly, the dependent claims also are in condition for allowance. Applicant, however, reserves the right to address such rejections of the dependent claims in the future as appropriate.

CONCLUSION

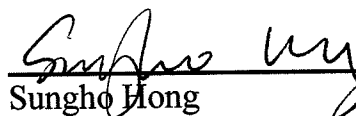
For at least the above-stated reasons, this application is respectfully asserted to be in condition for allowance. An early and favorable examination on the merits is requested. In the event that a telephone conference would facilitate the examination of this application in any way, the Examiner is invited to contact the undersigned at the number provided.

THE COMMISSIONER IS HEREBY AUTHORIZED TO CHARGE ANY ADDITIONAL FEES WHICH MAY BE REQUIRED FOR THE TIMELY CONSIDERATION OF THIS AMENDMENT UNDER 37 C.F.R. §§ 1.16 AND 1.17, OR CREDIT ANY OVERPAYMENT TO DEPOSIT ACCOUNT NO. 13-4500, ORDER NO. 1232-5209.

Respectfully submitted,
MORGAN & FINNEGAN, L.L.P.

Dated: December 10, 2007

By:


Sung Ho Hong
Registration No. 54571

Correspondence Address:

MORGAN & FINNEGAN, L.L.P.

3 World Financial Center

New York, NY 10281-2101

(212) 415-8700

(212) 415-8701

Telephone

Facsimile